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ORGANIC ELECTRONIC ELEMENT MATERIAL

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ABSTRACT

PURPOSE: To obtain an organic electronic element material having anisotropy of electrical conduction controllable at molecular level, by using a functional molecule containing a functional group having electron-transmission ability in the molecule and transmitting electron between the functional groups according to a quantum mechanical tunneling mechanism.

CONSTITUTION: The objective organic electronic element substance is composed of a functional molecule containing plural functional groups having electron transmission ability in the molecule and disposed in a manner that electron can be transmitted between the functional groups or composed of plural number of functional molecules each having one functional group and disposing the compounds in a manner that electron can be transmitted between said functional groups. The functional group is an oxidation-reduction substance selected from porphyrin derivatives, phthalocyanine derivatives, isoalloxazine derivatives, viologens and organometallic complexes. The skeleton of the functional molecule is a polymeric compound, a fatty acid or a cyclic organic compound.

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AN - 88-320199 [45]

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TI - Material for organic electronic element - comprises functional molecule with controllable anisotropy to transmit electrons

it - MATERIAL ORGANIC ELECTRONIC ELEMENT COMPRISE FUNCTION MOLECULAR CONTROL ANISOTROPE ELECTRON TRANSMIT

PA - (MITQ) MITSUBISHI DENKI KK

PN - JP63238166 A 881004 DW8845

IC - C08G61/10 ; C08L101/00 ; H01L29/28

AB - J63238166 A material comprises a functional molecule contg. functional gp(s) for transmitting electrons and has controllable anisotropy to the direction for transmitting electrons by the quantum-mechanically tunnelling mechanism. The functional gp. is a redox substance (e.g. porphyrin deriv., phthalocyanine deriv, isoalloxazine deriv, viologne deriv, organic metal complex, etc.). The skeleton is pref. polypeptide, polynucleotide, polyamide, vinyl polymer, polyester, etc. The element comprises a skeleton and the functional gps. arranged so that the functional gps. are capable to transmit electrons to each other or the electron-transmitting functional gp. in the molecule is arranged with several functional gps. on the layer and the vicinal layers so that the functional gps. are capable to transmit electrons to each other.

- ADVANTAGE - The electroconductive anisotropy of the electronic element is controllable on a molecular scale. (7pp Dwg.No.0/9)